This equipment complies with the requirements of Directives 89/336/EEC and 73/23/EEC as amended by 93/68/EEC.

Dieses Gerät entspricht den Anforderungen der EG-Richtlinien 89/336/EWG und 73/23/EWG mit Änderung 93/68/EWG.

Ce matériel répond aux exigences contenues dans les directives 89/336/CEE et 73/23/CEE modifiées par la directive 93/68/CEE.

Dit apparaat voldoet aan de eisen van de richtlijnen 89/336/EEG en 73/23/EEG, gewijzigd door 93/68/EEG.

Dette udstyr overholder kravene i direktiv nr. 89/336/EEC og 73/23/EEC med tillæg nr. 93/68/EEC.

Quest' apparecchio è conforme ai requisiti delle direttive 89/336/EEC e 73/23/EEC, come emendata dalla direttiva 93/68/EEC.

Η εγκατάσταση αυτή ανταποκρίνεται στις απαιτήσεις των οδηγιών της Ευρωπαϊκής Ενωσης 89/336/ΕΟΚ και 73/23/ΕΟΚ, όπως οι κανονισμοί αυτοί συμπληρώθηκαν από την οδηγία 93/68/ΕΟΚ.

Este equipamento obedece às exigências das directivas 89/336/CEE e 73/23/CEE, na sua versão corrigida pela directiva 93/68/CEE.

Este aparato satisface las exigencias de las Directivas 89/336/CEE y 73/23/CEE, modificadas por medio de la 93/68/CEE.

Denna utrustning uppfyller kraven enligt riktlinjerna 89/336/EEC och 73/23/EEC så som kompletteras av 93/68/EEC.

Dette produktet oppfyller betingelsene i direktivene 89/336/EEC og 73/23/EEC i endringen 93/68/EEC.

Tämä laite täyttää direktiivien 89/336/EEC ja 73/23/EEC vaatimukset, joita on muutettu direktiivillä 93/68/EEC.

WARNING:
FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

LISTED ACCESSORY
9K11 ITE.

"For use
AL-1000
AL-1010
AL-1020
AL-1200
AL-1220
AL-1280
AL-1520
AL-1040
AL-1240"

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1 GETTING STARTED

This chapter provides basic information for using the SHARP AL-1000 series printer and its features.

INTRODUCTION

The AL-1000 series machines can be used as a copier and a laser printer. This manual describes only the printer features of the machine. To use an AL-1000 series machine as a copier and to learn additional information which relates to both the copier and printer features, see the copier manual. To get full use of all printer features, familiarize yourself with this manual. For quick reference during printer use, keep this manual in a handy location.

Conventions used in this manual

In this manual, the following icons are used to provide the user with information pertinent to the use of the machine.

Warns the user that injury to the user or damage to the machine may result if the contents of the warning are not properly followed.

Cautions the user that damage to the machine or one of its components may result if the contents of the caution are not properly followed.

Notes provide information relevant to the machine regarding specifications, functions, performance, operation and such, that may be useful to the user.

- When you try to execute printing while copying is being performed, printing will be executed after copying is finished.
- When you try to make a copy while printing is being performed, printing will be interrupted and you can make a copy. Printing will be resumed after copying is finished.

Trademark acknowledgments

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HP, LaserJet and PCL are trademarks of the Hewlett-Packard Company.
All other trademarks and copyrights are the property of their respective owners.

Making floppy disks from CD-ROM

The printer driver data in the CD-ROM can be copied to floppy disks.

Windows 95/Windows 98/Windows NT 4.0:

1. Double-click **My Computer**, **Sharp_al**, and **Makedisk**.
2. Double-click **Makedisk.exe**.
3. Follow the on-screen instructions.

Windows 3.1x:

1. Double-click the **File Manager** in the Main window of Program Manager and select **CD-ROM** and the **Makedisk** directory.
2. Double-click **Makedisk.exe**.
3. Follow the on-screen instructions.

MAIN FEATURES

① Printing from Windows 3.1x, Windows 95, Windows 98, and Windows NT 4.0 applications

- High-speed and high-quality printing can be performed from Windows 3.1x, Windows 95, Windows 98, and Windows NT 4.0 applications through the SHARP GDI (Graphics Device Interface) system.
- Since print data is processed in the computer, waiting time during printing is short.

② High-speed printing at 8 pages/min.

- First print time is approximately 9.6 seconds.
- Print speed is 8 pages/min., when printing multiple pages.

Before reading the next section

The AL-1000 series copiers are equipped with the printer interface either as standard features or optional features depending on the model. If your copier is equipped with the printer interface as standard, proceed to page 9 – **CONNECTING THE INTERFACE CABLE**.

INSTALLING THE OPTIONAL PRINTER UPGRADE KIT

To install the printer board and memory, be sure to follow the precautions below.

Warning

Be sure to turn off this machine and your computer and remove the power cord before starting installation. If not, an electric shock or injury may result.

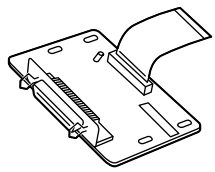
Caution

- Do not touch the chips, circuits, and connectors on the printer board and memory board directly with your hands. Doing so may damage them through static electricity.
- **Discharge the static electricity in your body by touching a grounded metal part before starting installation.**
- To protect the printer board and memory from static damage, remove them from protective bags just before starting work.
- Do not touch any object which easily generates static electricity (such as a computer display) with your hand.
- Do not subject the printer board and memory to undue shock.
- **Do not put the printer board or memory in a location which easily generates static electricity (such as on a carpet).**

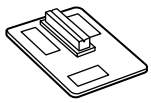
Checking packed components and accessories

Open the carton and check if the following components and accessories are included.

Printer board ... 1



Memory ... 1*

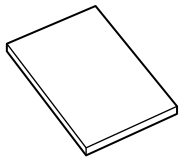


Printer driver (CD-ROM) ... 1

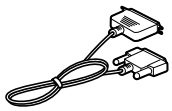
Screwdriver ... 1

Screws ... 4

Operation manual ... 1



Interface cable ... 1
(for IBM PC/AT or compatible computers)



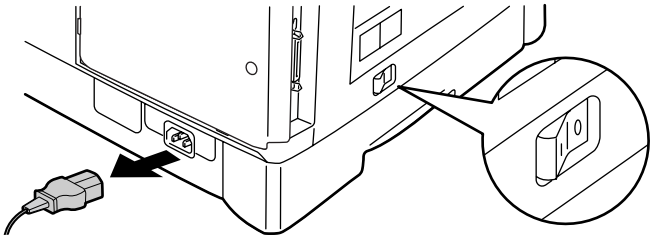
* In some models, the memory has been already installed in the machine and is not supplied in the printer upgrade kit (AL-10PK).

Note

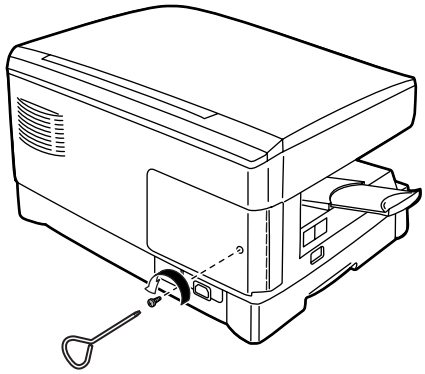
If anything is damaged or not included, contact your SHARP Service Center.

Removing the cabinet cover and board cover

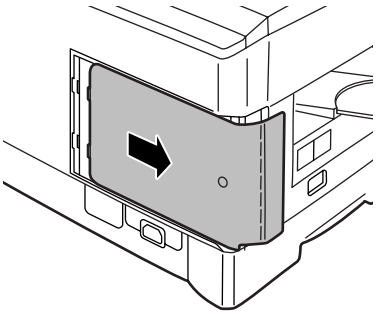
1 Ensure that the power switch on the copier is in the off position. Remove the power cord from the power cord socket at the rear of the copier.

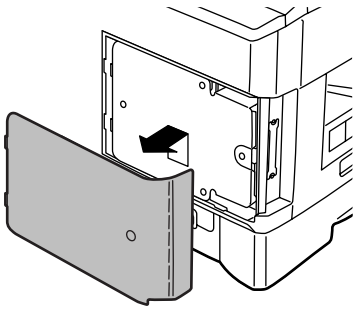


2 Remove the screw from the cabinet cover at the rear side of the machine using the supplied screwdriver.

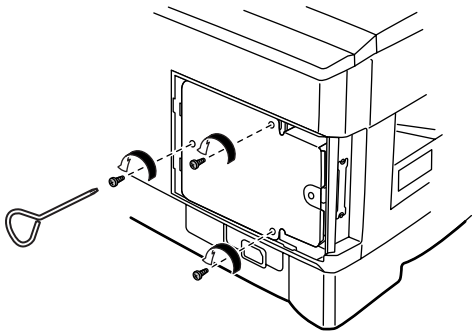


3 Slide the cabinet cover in the direction indicated by the arrow and pull the cover while raising it a little to remove it.

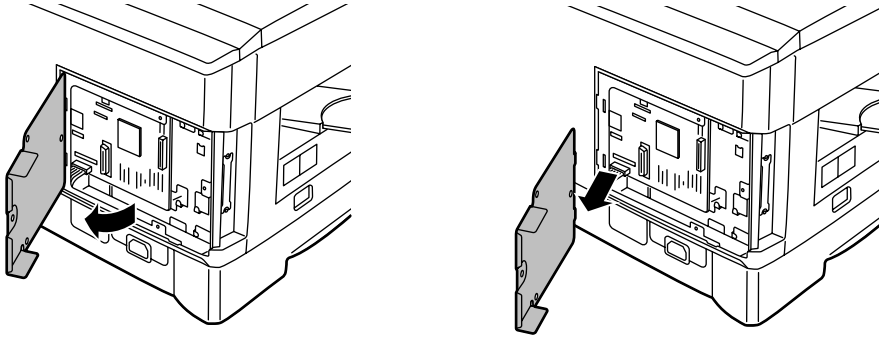




4 Remove the three screws from the board cover.



5 Open the board cover in the direction indicated by the arrow and then remove it.

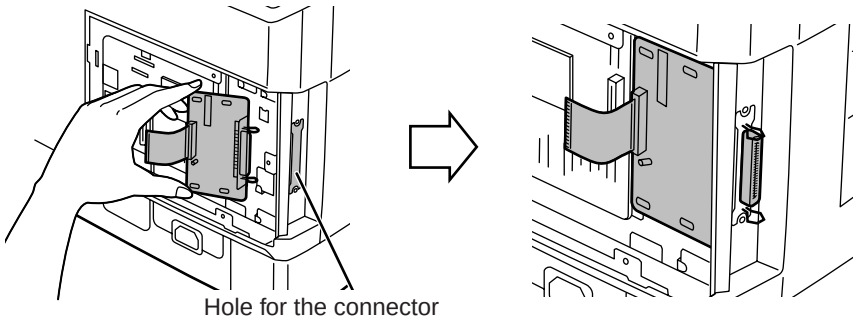


Installing the printer board

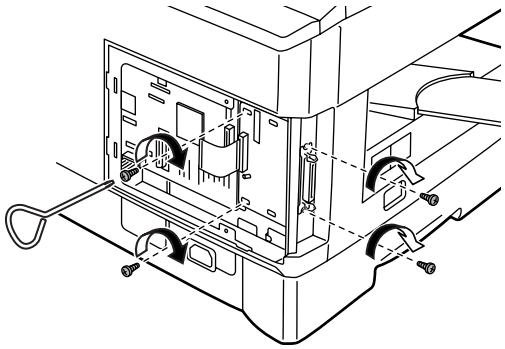
1 Before installing the printer board, be sure to read the precautions on page 4.

2 Remove the printer board from the protective bag.

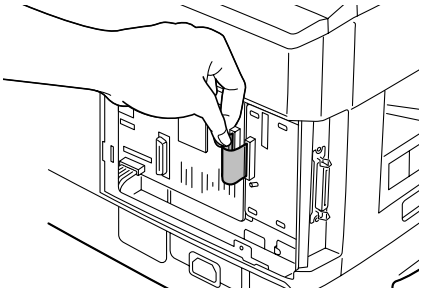
3 Install the printer board so that the parallel interface connector of the board is fitted into the hole for the connector.



4 Secure the printer board using the supplied four screws.



5 Connect the board cable to the connector of the machine.



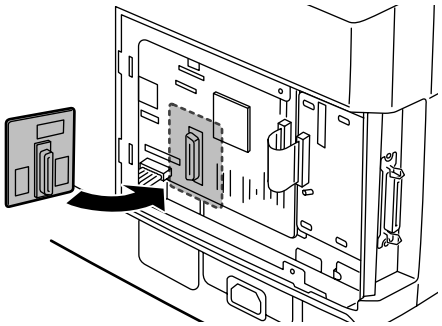
Installing the memory

If the memory is not supplied in the printer upgrade kit (AL-10PK), proceed to the “Replacing the cabinet cover and board cover” subsection.

1 Before installing the memory, be sure to read the precautions on page 4.

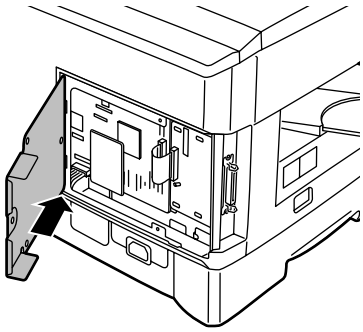
2 Remove the memory from the protective bag.

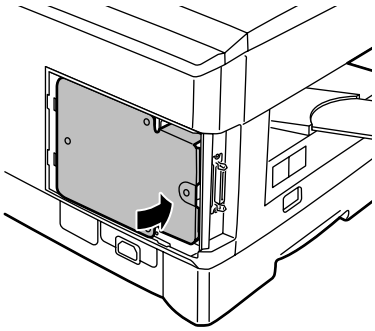
3 Check the orientation of the connector on the memory board and the connector on the machine, and connect them securely.



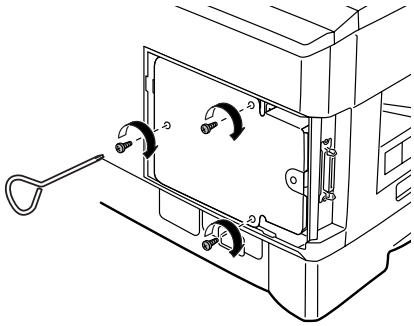
Replacing the cabinet cover and board cover

1 Reattach the board cover in the direction indicated by the arrow.



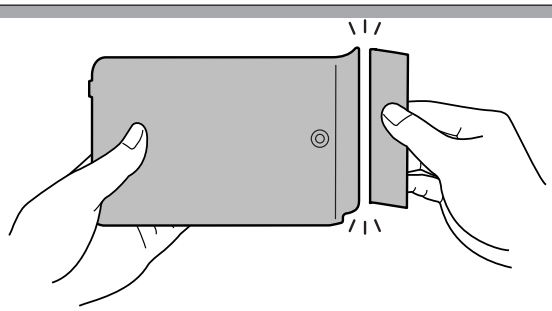


2 Secure the board cover using the three screws which had been removed.

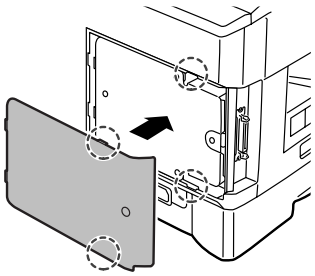


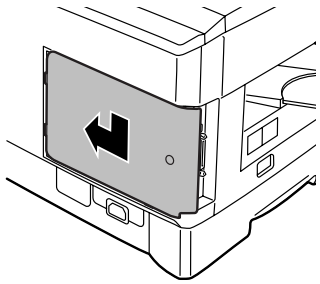
3 Remove the cabinet cover at the slit portion by bending it back with your hand to separate it.

> Caution
> Take care in handling the cabinet cover because the exposed edge could be sharp and may injure your hands.

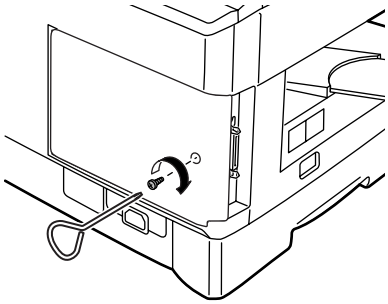


4 Fit the projections of the cabinet to the notches of the machine, push the cabinet downward a little and then slide it in the direction indicated by the arrow.



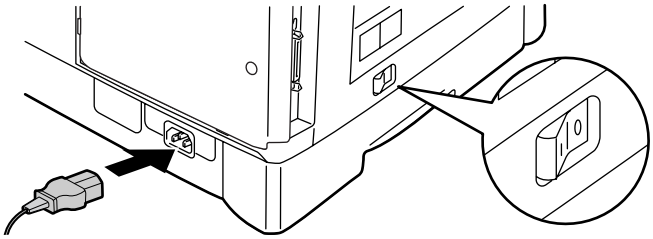


5 Secure the cabinet cover using the screw which has been removed.



Connecting the power cord

1 Ensure that the power switch of the copier is in the OFF position. Insert the removed power cord into the power cord socket at the rear of the copier.



CONNECTING THE INTERFACE CABLE

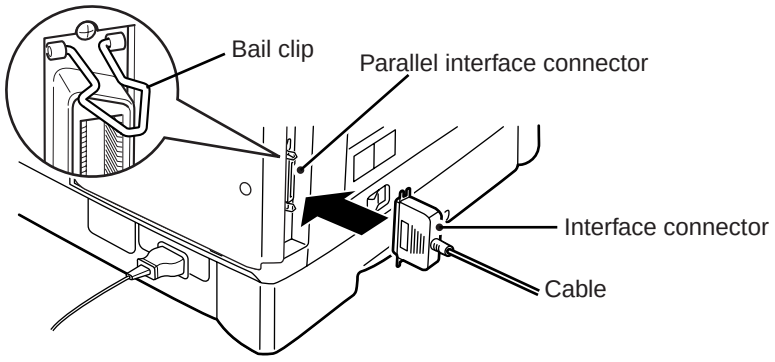
To use an AL-1000 series machine as a laser printer, connect it to the parallel interface cable.

Note
- Use the supplied parallel interface cable.
- For specifications of the parallel interface, see page 31.

1 Check that the power switches of both the printer and the computer are in the OFF position.

2 Plug the parallel interface cable into the printer interface connector. Fasten the two bail clips at the side of the printer connector to hold the interface connector in place.

3 Plug the other end of the cable into the parallel interface connector on your computer. (Refer to your computer manual for details.)



Caution
The printer sends and receives data bi-directionally and at high speed. Some switch boxes and pass-through devices cannot support high-speed, bi-directional transfer of data, and using them may cause printing errors.

INSTALLING THE PRINTER DRIVER SOFTWARE

Description of the printer driver

The printer driver is the software program which runs the printer. It converts the data in your file into information that the printer can understand. It also controls communication between the printer and computer as the data is printed.

Checking the hardware and software requirements

You will need the following hardware and software in order to install the printer driver.

Computer type	IBM PC/AT or compatible computer equipped with a bi-directional parallel interface and CD-ROM drive
Windows type	Windows 3.1x, Windows 95, Windows 98, Windows NT 4.0
CPU	486DX 66 MHz or better
Physical RAM	Windows 95, Windows 3.1x: 8MB (16MB or more is recommended.)
	Windows NT4.0: 12MB (16MB or more is recommended.)
	Windows 98: 16MB (32MB or more is recommended.)
Display	640 x 480 dots (VGA) or better
Hard disk free space	10 MB or more

Caution

The printer driver included in this product cannot be used under Windows NT 3.5x, OS/2, pure MS-DOS and other operating systems which are not described above.

Note

If you are using some of your computer's memory as a RAM drive, the printer driver may not be allocated the correct amount of memory. In such a case, reduce the size of your RAM disk, or do not use the RAM disk. Please refer to your MS Windows documentation for further information.

Installing the printer driver

The software for your printer is provided on CD-ROM.
Before installing the printer driver, be sure to check the following items.

- Is the printer connected properly to the computer?
- Does the printer have paper?
- Is there another GDI printer driver or Windows Printing System printer driver already installed? If installed, change the printer port setting. For the change of the printer port setting, see **USING OTHER INSTALLED DRIVERS** on page 28.

In this description, the following drive configuration is supposed. Specify proper drives depending on the configuration of your computer.

Drive R: CD-ROM drive (installation source)

Drive C: Hard disk drive (installation destination)

Windows 95/Windows NT 4.0:

1 Load paper into the paper tray of the printer. For loading of paper, see the section on **LOADING COPY PAPER** in the copier operation manual.

2 Turn on the printer.

3 Turn on your computer and start Windows.

Note

Before installing the printer driver, be sure to close all other applications which may be open.

4 When using Windows 95 on a personal computer with plug & play*, the “Update Device Driver Wizard” window will appear. Insert the installation CD-ROM into the CD-ROM drive. Click the **Next** button and follow the on-screen instructions. Proceed to step 7. If the “Copying Files” window appears during this operation, enter **R:** (if the CD-ROM is designated as drive R) and click the **OK** button.

Update Device Driver Wizard
This wizard will complete the installation of:
SHARP AL-1000 Series
by searching your local drives, network, and Internet locations for the most current driver.
If you have a disk or CD-ROM that came with this device, insert it now.
It is recommended that you let Windows search for an updated driver. To do this, click Next to continue.
< Back
Next >
Cancel

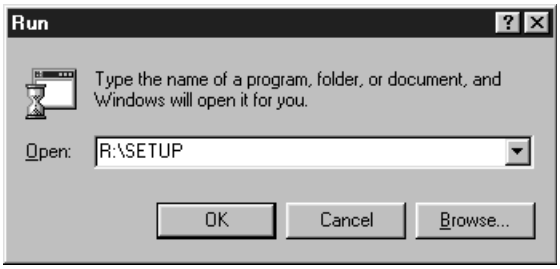
- If you use Windows 95 and the “New Hardware Found” window will appear, click the **Driver from Disk Provided by Hardware Manufacturer** button and then click **OK**. Proceed to step 6.
- If you use Windows 95 and the screen shown above or the “New Hardware Found” window does not appear, proceed to step 5.
- If you use Windows NT 4.0, proceed to step 5.

★ Plug & play
This feature is effective if both the computer and peripheral equipment are equipped with IEEE 1284 compliant parallel interface.

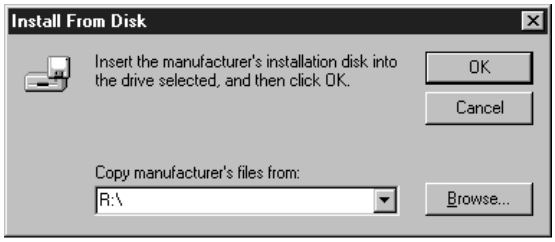
Note

The screen displayed depends on the version of Windows.

5 Insert the installation CD-ROM into the CD-ROM drive.
Click the **Start** button and select **Run**. When the screen shown below appears, type **R:\SETUP** (if the CD-ROM is designated as drive R) and click the **OK** button. Proceed to step 7.



6 "Installation from CD-ROM" window will appear. Insert the installation CD-ROM into the CD-ROM drive. Type **R:** (if the CD-ROM is designated as drive R) and click the **OK** button. Proceed to step 7.



7 The installation program will start. To install the printer driver to the default folder, click the **Next** button. To select a different folder, select **Browse** and type in the new path and folder name. Click **OK** and say **YES** to create the folder, select the **Next** button to continue.

8 On the display, you will see "printer port to be used". Normally, this is LPT1 and it is selected automatically.
Ensure that **Yes** is checked to use the printer as the default printer.
Finally click the **Next** button.

9 A "Confirm installation" window will be displayed. To continue installation, click the **Yes** button.

10 When the installation is complete, you will be asked whether or not to print a test page. If you wish to do so, click the **Yes** button. At this time, ensure that paper is loaded in the paper tray.

11 If the test print completes successfully, click the **Finish** button. "The installation of the SHARP AL-1000 Series Software is complete." window will be displayed. Click the **OK** button.

Note

If you have any problem with the test print, see **TROUBLESHOOTING** on page 23 and check the symptoms and solutions. Print the test page again after removing the problem.

Windows 98:

1 Load paper into the paper tray of the printer. For loading of paper, see the section on **LOADING COPY PAPER** found in the copier operation manual.

2 Turn on the printer.

3 Turn on your computer and start Windows.

Note

Before installing the printer driver, be sure to close all other applications which may be open.

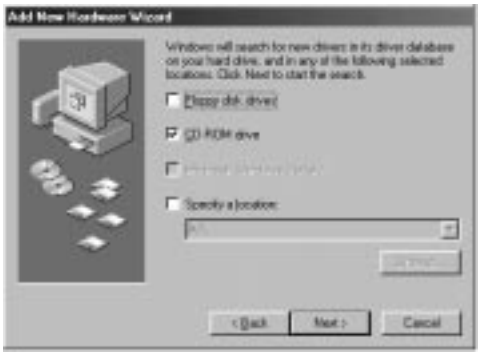
4 When using Windows 98 on a personal computer with plug & play*, the “Add New Hardware Wizard” window will appear. Click the **Next** button and follow the on-screen instructions.

- If the “Add New Hardware Wizard” window does not appear, proceed to step 8.

*Plug &play: For plug & play information, see page 11.

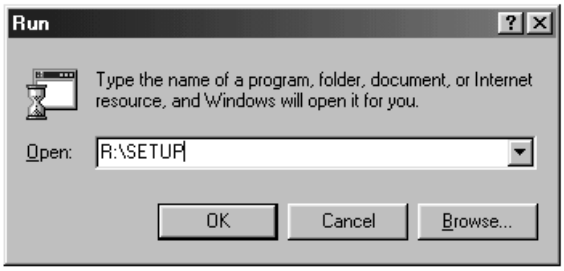
5 Select **Search for the best driver for your device** and click the **Next** button.

6 Insert the installation CD-ROM into the CD-ROM drive. Select the **CD-ROM drive** and click the **Next** button.



7 Windows driver file search will find the device “SHARP AL-1000 Series”. Click the **Next** button. Proceed to step 9.

8 Insert the installation CD-ROM into the CD-ROM drive. Click the **Start** button and select **Run**. When the window shown below appears, type **R:\SETUP** (if the CD-ROM is designated as drive R) and click the **OK** button. Proceed to step 9.



9 The installation program will start. To select a different folder, select **Browse** and type in the path and folder name where the printer driver will be installed. Click **OK** and say **YES** to create the folder, select the **Next** button to continue. To install the printer driver to the default folder, click the **Next** button.

10 On the display, you will see “printer port to be used”. Normally, this is LPT1 and it is selected automatically. Ensure that **Yes** is checked to use the printer as the default printer. Finally click the **Next** button.

11 A “Confirm installation” window will be displayed. To continue installation, click the **Yes** button.

12 When the installation is complete, you will be asked whether or not to print a test page. If you wish to do so, click the **Yes** button. At this time, ensure that paper is loaded in the paper tray.

13 If the test print completes successfully, click the **Finish** button. “The installation of the SHARP AL-1000 Series Software is complete.” window will be displayed. Click the **OK** button.

Note

If you have any problem with the test print, see **TROUBLESHOOTING** on page 23.

Windows 3.1x:

1 Load paper into the paper tray of the printer. For loading of paper, see the section on **LOADING COPY PAPER** in the copier operation manual.

2 Turn on the printer and then start Windows on your computer.

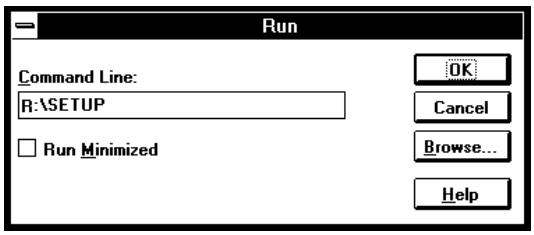
Note

Before installing the printer driver, be sure to close all other applications which may be open.

3 Insert the installation CD-ROM into a CD-ROM drive.

4 Choose **File** from the Menu bar in Program Manager, and then choose the **Run...** command.

5 Type **R:\SETUP** (if the CD-ROM is designated as drive R) in the command line box and then click the **OK** button.



6 Select a directory to which the printer driver will be installed and click the **Next** button. To install it to the default directory, click the **Next** button.

7 A “printer port to be used” window will be displayed. Normally, LPT1 is automatically set.
Then ensure that **Yes** is checked to use this printer as the default printer.

8 A "Confirm installation" window will be displayed. To continue installation, click **Yes**.

9 When the installation is complete, restart Windows.

AL-1000 Series printer driver group

When the printer driver is installed, the SHARP AL-1000 Series printer driver group will be created. This group allows the following functions to be executed.

Uninstall AL-1000 Series
The printer driver can be uninstalled. If the driver is uninstalled, printing cannot be performed on the printer.
For proper uninstallation, be sure to use uninstallation program of the printer driver group.

Readme
The latest information on the printer driver is included in this note. Read the Readme first.

Advanced Settings
See help for application support and application problems that may occur when printing. See help for the applicable method of usage.

Status Monitor
The printer state and information on current printing are displayed on the status monitor window. For details, see **STATUS MONITOR** on page 26.

DOS Emulation Setup
See page 21.

Status Monitor HELP

DOS Emulation HELP

Advanced Settings HELP

Note

Be sure to read “Readme” found in the printer driver group before starting to print from application programs.

2 PRINTING

PRINTING A PAGE

The printing method is described below. Read the description with the operation manual for the application to be used.

Caution

- Before you can use your printer, you must install the printer driver which has been supplied. Once this software has been installed, you can control the printing of your documents from the printer driver which appears on your computer screen. See **INSTALLING THE PRINTER DRIVER SOFTWARE** on page 10.
- When using multiple printers, you must change the printer setting from the control panel to change the printer to be used. This printer cannot be used with other GDI printers and printers that use the Windows Printing System. For details, see **USING OTHER INSTALLED DRIVERS** on page 28.

Executing printing

1 Ensure that paper of the desired size is loaded in the paper tray. (See the section on **LOADING COPY PAPER** in the copier operation manual.)

Note

To print onto special paper, the bypass tray or single manual bypass can be used. Select the bypass from the printer driver. See **SETTING PRINT CONDITIONS FROM PRINTER DRIVER** on page 18. Also see the description on the bypass in the copier operation manual. Feed special paper one sheet at a time.
If the printer is equipped with the single manual bypass, feed the paper after a message indicating to do so is displayed on the computer. If paper is fed into the manual bypass before the message is displayed, copying operation will start.

2 Turn on the printer. The ready ( ) indicator will light up.

3 Select the settings for printing such as the number of copies and paper type from the application. See **SETTING PRINT CONDITIONS FROM PRINTER DRIVER** on page 18.

Caution

Before printing, ensure that the AL-1000 Series has been selected as the printer.

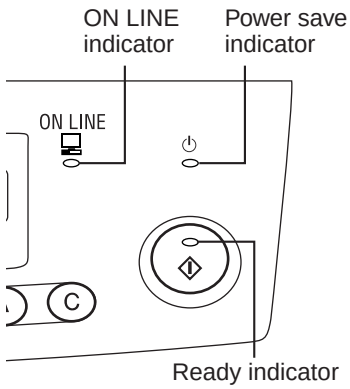
4 Print the file from your software application.

Note

- If copying is being performed when printing is initiated, copying will continue. After copying is complete, printing will be executed when the clear (Ⓒ) key is pressed twice or approximately 60 seconds (auto clear time)* elapse.
  * The auto clear time varies with a user program setting. See the copier operation manual.
- Preheat mode and auto power shut-off mode will be canceled when printing is started.
- If the paper size specified from the software application is larger than the paper size in the printer, the image may be printed onto two sheets of paper.
- If the paper size specified from the software application is larger than the paper size in the printer, part of the image that is not transferred to the paper may remain on the surface of the drum. In this case, the backside of the paper may become dirty. If this occurs, change to the correct size paper and print two or three pages to clean the image.

Indicators on the operation panel

The ON LINE indicator and the ready (⏻) indicator indicate the state of the printer.



Ready indicator

On: Indicates the printer is ready for printing (on line), data is being received from a computer or printing is being performed.

Off: Indicates copying is being performed or the printer is in the auto power shut-off mode.

ON LINE indicator

On: Indicates the printer is ready for printing (on line) or printing is being performed.

Blinking: Indicates copier setting is being performed during printing or data is being received from a computer.

Off: Copying is being performed.

Power save indicator

On: Indicates the printer is in a power save mode.

SETTING PRINT CONDITIONS FROM PRINTER DRIVER

The setting method and setting items of the printer driver are described below.
Before setting the printer driver, check the following items.

- The SHARP AL-1000 Series printer driver has been installed in the computer to be used. If not, see **INSTALLING THE PRINTER DRIVER SOFTWARE** on page 10.
- The SHARP AL-1000 Series has been selected as the default printer on the computer to be used.

Windows 95/Windows 98/Windows NT 4.0:

1 Click the **Start** button of the computer and then select **Printers** from Settings.

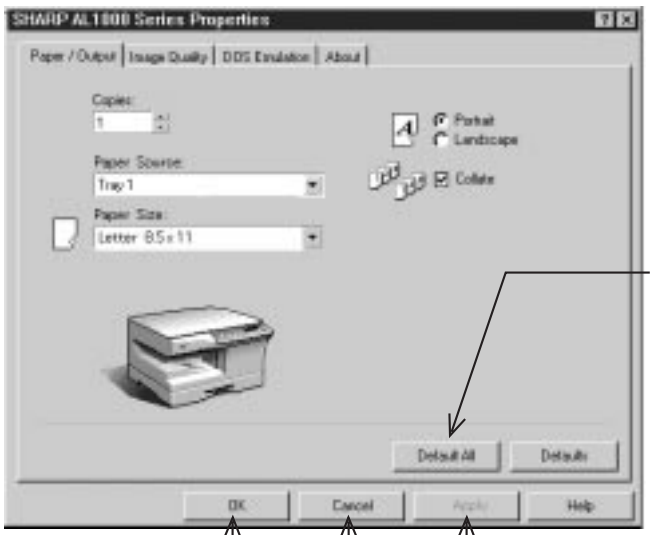
2 If you use Windows 95/Windows 98, right-click the **SHARP AL-1000 Series** icon in the Printer folder and select **Properties** in the menu.
If you use Windows NT 4.0, right-click the **SHARP AL-1000 Series** icon in the Printer folder and select **Document defaults** in the menu.

Note

For this description, it is assumed that the mouse is configured for right hand operation.

3 The properties of the SHARP AL-1000 Series printer driver will be displayed. If you use Windows 95/Windows 98, click the **SHARP AL-1000 Series Setup** tab to display the following screen.

* Screen on Windows 95



Default All button
When pressed, returns the settings which have been selected by each tab to their default state.

OK button
All driver settings which have been selected by each tab will be saved and the properties will be terminated.

Apply button
The settings which have been selected by each tab will be saved.
* This button is not displayed on the Windows NT 4.0

Cancel button
The settings which have been selected by each tab will be canceled and the properties will be terminated.
However, the settings which have been saved will not be canceled.

Windows 3.1x:

1. Double-click the **Print Manager** icon in the Main window of Program Manager.
2. Select **Options** in the Print Manager and then select **Printer Setup**.
3. Select **SHARP AL-1000 Series** in the Installed Printers: and click the **Setup** button.
4. The properties of the SHARP AL-1000 Series will be displayed.

The following items can be set with the printer driver.

Paper/Output

Copies	Specifies the number of sets to be printed. Any number from 1 to 99 can be selected. (default setting: 1)
Paper source	Specifies a paper feed station in the printer. (default setting: Tray 1)
Paper size	Specifies the size of the paper to be printed. The paper sizes that can be selected are letter, legal, invoice, A4, B5, A5, Folio, Foolscap, etc. (default setting: letter or A4 depending on the countries or regions)
Page orientation	Sets the page orientation. Portrait or landscape can be selected. (default setting: portrait)
Collate	Specifies collated printing or group printing. (default setting: collated)

Image Quality

Lighten/Darken	Any number from 0 to 100% can be set. (default setting: 50%)
Contrast	Any number from 0 to 100% can be set. (default setting: 50%)
Resolution	Specifies 300 dpi or 600 dpi. (default setting: 600 dpi)
Output Type	Specifies output type: Normal, Photograph, Text or Advanced. The selected output type will be reflected by the Image Quality icon in the upper left corner.

If **Advanced Image Quality** is selected, you can click the **Setup** button to open the Advanced Image Quality dialog.

Advanced Setup

Sharpness	Any number from 0% to 100% can be set. (default setting: 10%)
Halftone	Used when printing gray scale or color image data. “Fine”, “Medium” or “Coarse” can be selected. (default setting: Medium)

DOS Emulation
A PCL4 DOS Emulation setup program can be started by clicking the **Setup** button. This is an independent program that configures the PCL4 DOS emulation.

DOS Emulation Setup

DOS copies	Specifies the number of sets to be printed. Any number from 1 to 99 can be selected. (default setting: 1)
DOS orientation	Sets the page orientation. Portrait or landscape can be selected. (default setting: portrait)
DOS paper source	Specifies a paper feed station in the printer. (default setting: Tray 1)
DOS paper size	Specifies the size of paper to be printed. (default setting: letter or A4 depending on the countries or regions)
DOS A4 width	Specifies the number of columns in a line in the width direction of A4 size. (default setting: 77 columns)
DOS lines per page	Specifies the number of lines per page. (default setting: 60 lines or 64 lines depending on the countries or regions)
DOS font	Specifies the font to be used for printing. (default setting: Courier Regular)
DOS font size	Specifies the font size. (default setting: 10 CPI)
DOS symbol set	Specifies the symbol set to be used for printing. (default setting: Roman-8)

About
There are no settings on the About tab page. This page displays the installed printer driver version and copyright statements.

PRINTING FROM AN MS-DOS APPLICATION

You can execute printing from an MS-DOS application which has been executed from the MS-DOS prompt in Windows.

Note

This printer can only print from applications run from the MS-DOS prompt in Windows. It cannot print when running in native MS-DOS mode.

Print setting from the MS-DOS prompt

Windows 95/Windows 98 has the item, “Spool MS-DOS print jobs” in the port settings. If this setting is not selected, the printer will not operate properly. Use the following procedure to check the setting.

1 Click the **Start** button.

2 Select **Settings** and then click **Printers**.

3 Right-click the **AL-1000 Series** icon in the printer dialog box and click **Properties**.

Note: For this description, it is assumed that the mouse is configured for right hand operation.

4 Click the **Details** tab in the Properties dialog box.

5 Click the **Port Settings** button.

6 Check that "**Spool MS-DOS print jobs**" is checked in the port setting dialog box.

Settings on the front panel

Paper size, tray selection, and other options are set from the front panel. Use the following procedure to start the front panel.

Windows 95/Windows 98/Windows NT 4.0:

1 Click **Start**, **Program**, **SHARP AL-1000 Series**, and **DOS Emulation Setup**.

Windows 3.1x:

1 Double-click the **DOS Emulation Setup** icon in the SHARP AL-1000 Printer Group in Program Manager.

Software printer setting

Set your MS-DOS application to use the following model printer.

HP LaserJet Series II (PCL4)

If this printer is not listed on the application's printer setup, choose a PCL4 compatible printer.

3 PRINTER TROUBLE?

TROUBLESHOOTING

Some problems in the AL-1000 Series are common to both the copier and printer features, so also check the **TROUBLESHOOTING** section of the copier operation manual.

Printing problems

Note

"Copier" in the column "See page:" indicates the description is in the copier operation manual.

Problem	Possible cause	Solution	See page:
Printer driver cannot be installed.	Hard disk free space is not sufficient for installation of the printer driver.	Delete unnecessary files and application software to increase hard disk free space. (The driver requires at least 10 MB free space.)	10
	The operating system is not supported.	Use Windows 3.1x, Windows 95, Windows 98 or Windows NT 4.0.	10
Paper does not feed into the printer.	Paper is not set correctly.	Insert the paper correctly.	Copier*1
	Too much paper in the paper tray.	Remove excessive paper from the paper tray.	Copier*1
The printer does not print.	The interface cable might not be connected properly.	Check the interface connection.	9
	The interface cable is defective.	Check the cable with a computer and printer which you know work. If printing is still not possible, the interface cable is defective.	–
	The port setting is incorrect.	Check the printer settings in the Windows Control panel to make sure that the print job is being sent to the correct port (for example, LPT1).	10
	The TD cartridge or drum cartridge is not installed properly.	Ensure that the TD cartridge and drum cartridge are installed properly.	–
	The printer may be configured incorrectly.	Check the application to make sure that all the print settings are correct.	–
	The printer driver may be incorrectly installed.	Reinstall the printer driver software and try printing a test page.	10

*1 See the section on LOADING COPY PAPER.

Problem	Possible cause	Solution	See page:
The printer prints wrong data or incorrect characters.	The interface cable might not be connected properly.	Check the interface cable connection.	9
	The interface cable specifications may be incorrect.	Use the supplied interface cable. See the parallel interface specifications.	31
Printing is too slow.	If using Windows 3.1x, Print manager may be disabled.	Double-click the Printers icon in Control Panel and check the Use Print Manager box.	–
	There may be too many applications open.	Close all unnecessary applications before printing.	–
	RAM disk is used in the computer.	Reduce the RAM disk size or do not use the RAM disk.	–
	The resolution is set to 600 dpi.	Set the resolution to 300 dpi.	–
	The computer may have insufficient random-access memory (RAM).	Install more random-access memory (RAM) in your computer.	–

Problem	Possible cause	Solution	See page:
Half of the page is blank.	The page layout is too complex.	Simplify the page layout.	–
	Resolution is set to 600 dpi.	Set resolution to 300 dpi.	20
	Page orientation setting may be incorrect.	Change the page orientation with the printer driver.	20
	There may be too many applications open.	Close all unnecessary applications before printing.	–
	The paper in the printer may be larger than the paper size specified in your application or printer driver.	Load the correct paper into the printer.	–
	Interface cable specifications may be incorrect.	Use the supplied interface cable.	–
	The CPU specifications may be incorrect.	Check that the CPU of your computer is 486DX 66 MHz or better.	10
	The computer may have insufficient random-access memory (RAM).	Install more random-access memory (RAM) in your computer.	10

STATUS MONITOR

When printing starts, the status monitor screen will appear on the computer display. The status monitor displays the printer state and information on the current print job.
The status monitor displays the following types of messages,Normal, Warning and Fault. If an error message appears, check the message description below and perform the listed task.

Note

"Copier" in the column "See page:" indicates the description is in the copier operation manual.

Normal Messages

The following messages indicate the current state of the printer. Since the operation is normal, you need not take any measures.

Message	Description
Ready	The printer is idle and ready for the next print job.
Printing in progress	A printing job is in progress.
Copying in progress	A copying job is in progress.

Warning Messages

Message	Solution	See page:
TD cartridge is near empty. Reorder a new cartridge and replace soon.	Running out of toner. While printing can continue, the print quality will be affected. Reorder a new TD cartridge and replace it.	Copier*1
Drum cartridge is near end of life. Reorder a new cartridge and replace soon.	The drum cartridge is nearly spent. While printing can continue, the print quality will be affected. Reorder a new cartridge and replace it soon.	Copier*1

*1: See the section on **OPTION AND SUPPLY PART NUMBERS AND STORAGE**.

Fault Messages

Message	Solution	See page:
TD cartridge is empty. Replace empty TD cartridge with a new cartridge.	The TD cartridge is empty. Printing cannot continue until you replace the empty TD cartridge with a new cartridge.	Copier*2
Drum cartridge is at end of life. Replace empty drum cartridge with a new cartridge.	The drum cartridge is spent. Printing cannot continue until you replace the spent drum cartridge with a new cartridge.	Copier*3
Front/ Side Cover open. Close Covers.	One of the covers on the printer is open. Printing cannot continue until you close the cover.	–
Insert TD cartridge into the machine	The TD cartridge is not in the printer. Insert a TD cartridge into the printer.	Copier*4

Message	Solution	See page:
Paper Jam	A piece of paper has misfed within the printer. Printing cannot continue until the misfed paper is removed.	Copier*5
Check Paper Tray : Out of Paper or Misfeed	The paper tray is out of paper or the paper did not feed correctly. Printing cannot continue until you load the paper or clear the misfeed in the paper tray.	Copier*6
Check Bypass Tray : Out of Paper or Misfeed	The bypass tray is out of paper or the paper did not feed correctly. Printing cannot continue until you load the paper or clear the misfeed in the bypass tray.(Multi-sheet Bypass Machines only)	Copier*7
Service Error Switch Main Power OFF on the product. Wait approximately 5 seconds. Switch Main Power ON. If the Service Error continues, Contact your authorized SHARP Service Center.	The product has detected a fatal error condition and cannot continue. Make a note of any specific error conditions or codes. Then turn the product's main power switch to OFF. Wait for five seconds. Then turn the product's main power switch to ON. If the product error condition persists, please contact your authorized SHARP Service Center.	–
Product Communication Error The computer has lost communications with the product. Cancel the current operation, turn the product off then back on, retry the operation.	The computer has lost communications with the product. Cancel the current operation. Then turn the product's main power switch to OFF. Check the cable connections carefully. Wait five seconds, Then turn the product's main power switch to ON. Try the print job again. If the product communications error condition persists, please refer to the Operation manual.	9

*2: See the section on TD CARTRIDGE REPLACEMENT.
*3: See the section on DRUM CARTRIDGE REPLACEMENT.
*4: See the section on INSTALLING THE TD CARTRIDGE.
*5: See the section on MISFEED REMOVAL.
*6: See the section on LOADING COPY PAPER.
*7: See the section on BYPASS FEED.

USING OTHER INSTALLED DRIVERS

If you use another GDI printer or a Windows Printing System printer, interference between printers may occur and printing may not be performed properly.
To use another GDI printer or a Windows Printing System printer, you must change the port setting of the printer driver using the following procedure.

> Note
> If another printer does not operate properly when the AL-1000 series printer driver is set to “FILE”, uninstall the AL-1000 series printer driver.
> To uninstall the driver, see **UNINSTALLING PRINTER DRIVER** on page 29.

Windows 95/Windows 98/Windows NT 4.0:

1. Click the **Start** button.
2. Select **Settings** and then click **Printers**.
3. Right-click the **AL-1000 Series** icon in the printer dialog box and then click **Properties**.

> Note
> For this description, it is assumed that the mouse is configured for right hand operation.

4. Click the **Details** tab (**Ports** tab – on Windows NT4.0) in the Properties dialog box, select **FILE:** in the Print to the following port list box, and click the **OK** button.
5. Right-click the icon of the printer to be used and click **Properties**.
6. Click the **Details** tab (**Ports** tab – on Windows NT4.0) in the Properties window, select **LPT1** (or the currently used port), and click the **OK** button.

> Note
> To use the AL-1000 series again, perform the same procedure but select the port to be used (for example, LPT1) in step 4.

Windows 3.1x:

1. Double-click the **Control Panel** icon in the Main window of Program Manager.
2. Double-click the **Printers** icon. The Printers window will then open.
3. Select **AL-1000 Series**, and then click the **Connect** button.

4 Select **File** from the list of options in the Ports window, and then click the **OK** button.

5 Select the new printer you would like to use from the list in the Installed Printers window, and then click the **Connect** button.

6 Select the printer port to use for the new printer, and then click the **OK** button.

7 Click the **Set As Default Printer** button, and then click the **Close** button.

Note

To use the AL-1000 series again, perform the same procedure but select the port to be used (for example, LPT1) in step 4.

UNINSTALLING PRINTER DRIVER

If the printer driver is not installed properly or if you need not use this printer any more, uninstall the printer driver from your computer using the following procedure.

1 If using Windows 95/Windows 98/Windows NT 4.0, click **Start**, **Program**, **SHARP AL-1000 Series**, and **Uninstall AL-1000 Series**.
If using Windows 3.1x, double-click the **SHARP AL-1000 Series** icon in Program Manager and double-click the **Uninstall AL-1000 Series** icon.

2 When the Confirm File Deletion window appears, Click the **Yes** button.

3 When the “Remove Programs From Your Computer” window appears, click the **OK** button.

4 APPENDIX

SPECIFICATIONS

Resolution	600 or 300 can be selected.
Page description language	SHARP GDI
Page orientation	Portrait or landscape
First print time	Approx. 9.6 seconds*
Print speed (multiple pages)	Approx. 8 pages per minute (letter or A4)
Interface port	Bi-directional parallel interface (IEEE 1284 compliant)

* First print time may differ depending on operating conditions, such as power-supply voltage and room temperature.
Also the time may differ depending on data quantity to be printed and applications.

Note

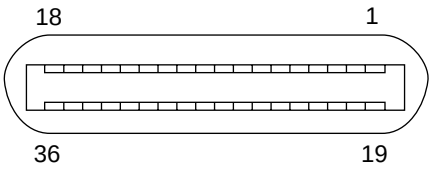
As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

PARALLEL INTERFACE

This printer uses a bi-directional parallel interface. Use the supplied interface cable.

> Caution
> For specifications of the parallel interface of your computer, see its operation manual.

Connector
36-pin DDK 57LE-40360-730B (D29) female connector or equivalent connector



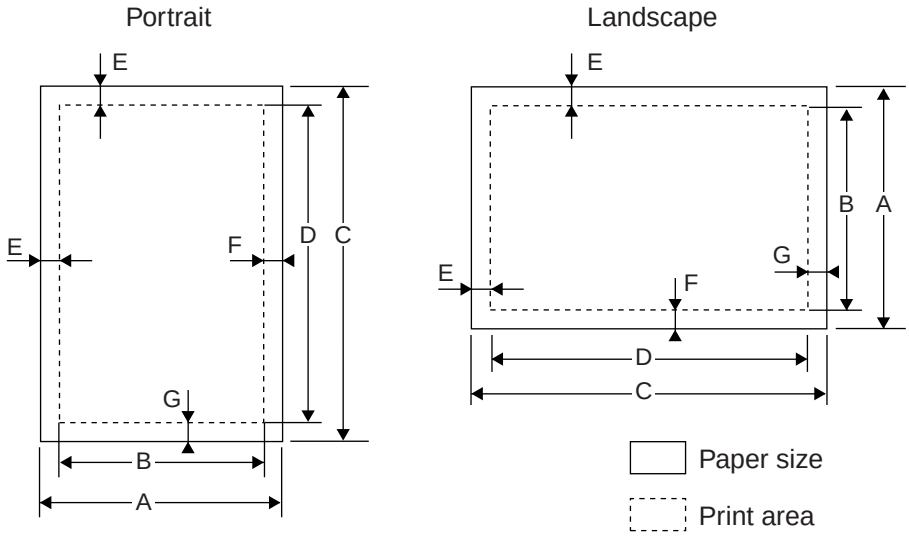
Cable
Shielded type bi-directional parallel interface
For best results, use a printer interface cable which is IEEE1284 compliant.

Pin configuration
The pin numbers and signal names are listed in the following table.

Pin No.	Signal name	Pin No.	Signal name
1	$\overline{\text{STB}}$	19	GND ($\overline{\text{STB}}$ RET)
2	DATA1	20	GND (DATA1 RET)
3	DATA2	21	GND (DATA2 RET)
4	DATA3	22	GND (DATA3 RET)
5	DATA4	23	GND (DATA4 RET)
6	DATA5	24	GND (DATA5 RET)
7	DATA6	25	GND (DATA6 RET)
8	DATA7	26	GND (DATA7 RET)
9	DATA8	27	GND (DATA8 RET)
10	$\overline{\text{ACKNLG}}$	28	GND ($\overline{\text{ACKNLG}}$ RET)
11	BUSY	29	GND (BUSY RET)
12	PE (Paper End)	30	GND (PE RET)
13	SLTC	31	INPRM
14	$\overline{\text{AUTO LF}}$	32	$\overline{\text{FAULT}}$
15	(NC)	33	(NC)
16	GND (0 V)	34	(NC)
17	FG	35	+5V
18	+5V	36	$\overline{\text{SLTC IN}}$

PRINT AREA

The print area of this printer is shown below.



600 dpi

Paper size	Dots						
	A	B	C	D	E	F	G
Letter	5100	4900	6600	6400	100	100	100
Legal	5100	4900	8400	8200	100	100	100
Invoice	3300	3100	5100	4900	100	100	100
A4	4960	4760	7014	6814	100	100	100
A5	3508	3308	4960	4760	100	100	100
B5	4298	4098	6070	5870	100	100	100
Folio	5100	4900	7800	7600	100	100	100
Foolscap	5100	4900	7440	7240	100	100	100

300 dpi

Paper size	Dots						
	A	B	C	D	E	F	G
Letter	2550	2450	3300	3200	50	50	50
Legal	2550	2450	4200	4100	50	50	50
Invoice	1650	1550	2550	2450	50	50	50
A4	2480	2380	3507	3407	50	50	50
A5	1754	1654	2480	2380	50	50	50
B5	2149	2049	3035	2935	50	50	50
Folio	2550	2450	3900	3800	50	50	50
Foolscap	2550	2450	3720	3620	50	50	50

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